

## Prof. Ufuk SAKARYA

### Personal Information

**Office Phone:** [+90 212 383 5898](tel:+902123835898)

**Email:** [usakarya@yildiz.edu.tr](mailto:usakarya@yildiz.edu.tr)

**Web:** <http://avesis.yildiz.edu.tr/usakarya/>

**Address:** Yıldız Teknik Üniversitesi, Elektrik-Elektronik Fakültesi, Elektronik ve Haberleşme Müh. Böl. YTÜ Davutpaşa Kampüsü  
34220 Esenler İstanbul / TÜRKİYE

### International Researcher IDs

ScholarID: GgstPK0AAAAJ

ORCID: 0000-0002-8365-3415

Publons / Web Of Science ResearcherID: AAZ-4401-2020

ScopusID: 56247356600

Yoksis Researcher ID: 238447

### Biography

Ufuk Sakarya was born in 1976. He received his B.Sc. and M.Sc. degrees in electrical and electronics engineering from Middle East Technical University in 1998 and 2002 respectively. During his M.Sc. thesis, he worked on constructing of surface topography from multiple images that are illuminated from different light source directions. He received his Ph.D. degree in electronics engineering from Ankara University in 2009. In his Ph.D. thesis, graph theoretic three video scene detection methods were proposed to detect high-level temporal video segments. He was Assoc. Prof. of Electrical and Electronics Engineering at TÜBİTAK UZAY in 2018.

He worked at Yıldız Technical University, Faculty of Applied Sciences, Department of Aviation Electronics as an Assoc. Prof. Dr. between March 2019 and April 2024. He has also been Head of Department of Aviation Electronics since 20 March 2019. He is the first Head of Department of Aviation Electronics. He has also been The Member of Board of Administration and The Member of Board of Faculty of Faculty of Applied Sciences since 20 August 2019. He has currently worked at Yıldız Technical University, Faculty of Electrical and Electronics, Department of Electronics and Communication Engineering as a Prof. Dr. since 02 April 2024.

His main research topics are pattern recognition, remote sensing, computer vision, avionics, image and video processing, forensic science. He has co-authored more than 60 publications in the related areas.

He worked at TÜBİTAK UZAY (The Scientific and Technological Research Council of Türkiye, Space Technologies Research Institute) as a researcher between 1998 and 2009. He completed the military service in 2010. After the military service, he worked at TÜBİTAK UZAY until 1 March 2019. He was a Group Leader in Remote Sensing Group of TÜBİTAK UZAY between 02 March 2015 and 05 September 2018. He has basically worked on the projects that are closely related with image and video processing. He was working in the related projects as project manager, system designer and software developer. He has worked as a chief researcher on the project of developing an automated firearms identification system called by "Balistika 2010". He has also worked on the images of RASAT, which is the first earth observation satellite built in Türkiye. He studied on the radiometric calibration of GÖKTÜRK-2 satellite sensor. He worked on the hyperspectral image processing and dimension reduction methods in high-dimensional data processing. In addition, he worked on developing of TÜRKSAT 6A which is the first communication satellite building in Türkiye.

He was a chairman and member of BHİKPK – BARKOK (Coordination and Planning Committee of Map Works Inter Ministries - Scientific Research and Coordination Commission) in Türkiye between 2015 and 2017. He has also been

United Nations (UN) Economic and Social Commission for Asia and the Pacific (ESCAP) Drafting Committee Member of Asia-Pacific Plan of Action for Space Applications for Sustainable Development (2018-2030) in 2018. In addition, he was Group on Earth Observations (GEO) European High Level Working Group (HLWG) Member of Türkiye in 2018.

He speaks Turkish (Native) and English. He is married and he has two children.

## Education Information

Doctorate, Ankara University, Fen Bilimleri Enstitüsü, Elektronik Müh. Abd., Turkey 2002 - 2009

Postgraduate, Middle East Technical University, Graduate School Of Natural And Applied Sciences, Elektrik Ve Elektronik Müh.Abd., Turkey 1999 - 2002

Undergraduate, Middle East Technical University, Faculty Of Engineering, Elektrik Ve Elektronik Müh.Böl., Turkey 1994 - 1998

## Foreign Languages

English, C1 Advanced

## Dissertations

Doctorate, Videolarda İçerik Dizinleme Amaçlı Çizge Kuramsal Sahne Sezme, Ankara Üniversitesi, Fen Bilimleri Enstitüsü, Elektronik Müh. Abd., 2009

Postgraduate, Integration of Photometric Stereo and Shape From Shading Algorithms, Orta Doğu Teknik Üniversitesi, Fen Bilimleri Enstitüsü , Elektrik Ve Elektronik Müh.Abd., 2002

## Research Areas

Geotechnical Engineering, Geographic Information Systems, Earth Observations (Remote Sensing), Information Systems, Communication and Control Engineering, Robotics and Mechatronics Systems, Computer Vision, Signal Processing, Image and Video Processing, Pattern Recognition and Analysis, Signal Processing Theory and Methods, Computer Sciences, Artificial Intelligence, Computer Learning and Pattern Recognition, Pattern Recognition and Image Processing, Software, Software Engineering, Aeronautical and Space Engineering, Space Engineering, Software, Object-oriented programming, Engineering and Technology

## Academic Titles / Tasks

Professor, Yıldız Technical University, Faculty Of Electrical & Electronics, Electronics And Communication Engineering, 2024 - Continues

Associate Professor, Yıldız Technical University, Faculty Of Applied Sciences, Aviation Electronics, 2019 - 2024

## Academic and Administrative Experience

Fakülte Kurulu Üyesi, Yıldız Technical University, Faculty of Applied Sciences, 2019 - Continues

Fakülte Yönetim Kurulu Üyesi, Yıldız Technical University, Faculty of Applied Sciences, 2019 - Continues

Yıldız Teknik Üniversitesi, Faculty of Applied Sciences, Havacılık Elektroniği Bölümü, 2019 - Continues

## Courses

Microprocessor Systems, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022  
Introduction to System Engineering in Aviation Electronics, Undergraduate, 2022 - 2023, 2021 - 2022  
Introduction to Aviation Systems, Undergraduate, 2023 - 2024, 2022 - 2023, 2021 - 2022  
Satellite and Electronic Equipments, Undergraduate, 2022 - 2023  
Signals and Systems, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021  
Satellite Communication, Undergraduate, 2023 - 2024  
Fundamentals of Electrical Circuits, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020  
Circuit and Systems Analysis, Undergraduate, 2022 - 2023, 2021 - 2022, 2020 - 2021  
Pattern Recognition in Multi-Sensor Systems, Doctorate, 2022 - 2023, 2021 - 2022, 2020 - 2021, 2019 - 2020  
Signals and Systems, Applications in Control Engineering, Undergraduate, 2019 - 2020

## Advising Theses

Sakarya U., Havacılıkta Sayısal Video Veri Yolu Standardı Araştırması, Postgraduate, A.PAMUK(Student), 2023  
Sakarya U., Türkiye'deki Yer İstasyonu ile Antarktika'daki İnsansız Hava Aracı Arasındaki Haberleşme İçin Uydu Sistemi Tasarımı, Postgraduate, M.İLAYDA(Student), 2023  
Sakarya U., Gemiler Arasında Kargo Transferi İçin Dikey İniş KalkışYapabilen İnsansız Hava Aracı Uçuş Kontrol BilgisayarıKavramsal Sistem Tasarımı, Postgraduate, M.ŞAHİN(Student), 2023  
Sakarya U., Ömürlü V. E., IMAGE PROCESSING BASED NAVIGATION IN AVIATION, Postgraduate, H.GENCO(Student), 2023  
Sakarya U., Change Impact Analysis for Software Configuration Management in Aviation, Postgraduate, N.HINIK(Student), 2022  
Sakarya U., Havacılık Uygulamaları için Sahada Programlanabilir Kapı Dizilerini Kullanarak İzleme, Postgraduate, F.YÜKSEL(Student), 2022  
Sakarya U., Kalman Filter Implementation on Field-programmable Gate Array for Navigation Applications, Postgraduate, M.MERT(Student), 2022  
Sakarya U., Hökelek İ., Universal Verification Methodology Case Study on Field Programmable Gate Array for Hardware Certification in Aviation, Postgraduate, İ.AYAZ(Student), 2022  
Sakarya U., GESTURE RECOGNITION FOR HUMAN-MACHINE INTERACTION IN AVIATION, Postgraduate, T.ZEYBEK(Student), 2022  
Sakarya U., Multi-Sensor Data Fusion for Path Prediction of Escaping from Engagement in Combat Aircraft, Postgraduate, E.NURULLAH(Student), 2022

## Designed Lessons

Sakarya U., Satellite and Electronic Equipments , Undergraduate, 2022 - 2023  
Sakarya U., Microprocessor Systems , Undergraduate, 2021 - 2022  
Sakarya U., Circuit and Systems Analysis, Undergraduate, 2020 - 2021  
Sakarya U., Signals and Systems, Undergraduate, 2020 - 2021  
Sakarya U., Pattern Recognition in Multi-Sensor Systems, Doctorate, 2019 - 2020  
Sakarya U., Fundamentals of Electrical Circuits, Undergraduate, 2019 - 2020

## Published journal articles indexed by SCI, SSCI, and AHCI

1. **The visual-based robotic language for industry 4.0 applications: Robotic U Language**  
SAKARYA U.  
Signal, Image and Video Processing, vol.18, no.1, pp.91-98, 2024 (SCI-Expanded)

- II. **Multi-sensor data fusion and nonlinear programming-based path prediction for escaping from engagement in combat**  
Gökal E. N., SAKARYA U.  
Archives of Control Sciences, vol.34, no.2, pp.247-269, 2024 (SCI-Expanded)
- III. **Wavelet-Based Gesture Recognition Method for Human-Machine Interaction in Aviation**  
Zeybek T., SAKARYA U.  
Journal of Intelligent and Robotic Systems: Theory and Applications, vol.109, no.2, 2023 (SCI-Expanded)
- IV. **DNA Chromatogram Classification Using Entropy-Based Features and Supervised Dimension Reduction Based on Global and Local Pattern Information**  
ÖZ E., YİĞİT Ö. E., SAKARYA U.  
International Journal of Pattern Recognition and Artificial Intelligence, vol.37, no.12, 2023 (SCI-Expanded)
- V. **Universal verification methodology-based airborne electronic hardware certification approach for ARINC-429**  
Ayaz I., SAKARYA U., Hokelek I.  
Aircraft Engineering and Aerospace Technology, vol.95, no.7, pp.1145-1150, 2023 (SCI-Expanded)
- VI. **Semi-supervised dimension reduction approaches integrating global and local pattern information**  
Sakarya U.  
SIGNAL IMAGE AND VIDEO PROCESSING, vol.13, no.1, pp.171-178, 2019 (SCI-Expanded)
- VII. **SAR image time-series analysis framework using morphological operators and global and local information-based linear discriminant analysis**  
Sakarya U., DEMIRPOLAT C.  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, vol.26, no.6, pp.2958-2966, 2018 (SCI-Expanded)
- VIII. **Dimension reduction using global and local pattern information-based maximum margin criterion**  
Sakarya U.  
SIGNAL IMAGE AND VIDEO PROCESSING, vol.10, no.5, pp.903-909, 2016 (SCI-Expanded)
- IX. **The performance of BALISTIKA 2010 system for 9 mm x 19 mm and 7.65 mm x 17 mm cartridge case correlation**  
OGUNC G. I., ORALLI A., KARA H., SAYAR A., Sakarya U., ARICAN Y. E.  
FORENSIC SCIENCE INTERNATIONAL, vol.232, pp.104-110, 2013 (SCI-Expanded)
- X. **Automated region segmentation on cartridge case base**  
Sakarya U., TOPCU O., LELOGLU U. M., SOYSAL M., TUNALI E.  
FORENSIC SCIENCE INTERNATIONAL, vol.222, pp.277-287, 2012 (SCI-Expanded)
- XI. **Dominant sets based movie scene detection**  
Sakarya U., Telatar Z., ALATAN A. A.  
SIGNAL PROCESSING, vol.92, no.1, pp.107-119, 2012 (SCI-Expanded)
- XII. **Video scene detection using graph-based representations**  
Sakarya U., Telatar Z.  
SIGNAL PROCESSING-IMAGE COMMUNICATION, vol.25, no.10, pp.774-783, 2010 (SCI-Expanded)
- XIII. **Graph-based multilevel temporal video segmentation**  
Sakarya U., Telatar Z.  
MULTIMEDIA SYSTEMS, vol.14, no.5, pp.277-290, 2008 (SCI-Expanded)
- XIV. **Three-dimensional surface reconstruction for cartridge cases using photometric stereo**  
Sakarya U., LELOGLU U. M., TUNALI E.  
FORENSIC SCIENCE INTERNATIONAL, vol.175, pp.209-217, 2008 (SCI-Expanded)
- XV. **An improved method of photometric stereo using local shape from shading**  
Sakarya U., Erkmén I.  
IMAGE AND VISION COMPUTING, vol.21, no.11, pp.941-954, 2003 (SCI-Expanded)

## Articles Published in Other Journals

- I. **The Turreted Gun System Technology Integrated To The Helmet Mounted Display System**  
Çaklışkan K., Sakarya U.  
Journal of Aviation Research, vol.6, no.2, pp.116-131, 2024 (Peer-Reviewed Journal)
- II. **A Review On the Possibility of Using the Video Data Bus Standard in Aviation for Smart Vehicles**  
Pamuk A., Sakarya U.  
Konya mühendislik bilimleri dergisi (Online), vol.11, no.1, pp.300-311, 2023 (Peer-Reviewed Journal)
- III. **System Engineering-Based Conceptual Design of Indoor Navigation System of Unmanned Aerial Vehicles**  
Paşaoğlu M., Canseven M. F., Işık H. B., Demir D. G., Sakarya U.  
European Journal of Engineering and Applied Sciences, vol.5, no.2, pp.86-93, 2022 (Peer-Reviewed Journal)
- IV. **Change Impact Analysis Case Study for Aviation: Mutation Testing**  
Hınk N., Çağırıcı Ö., Sakarya U.  
The European Journal of Research and Development, vol.2, no.2, pp.213-223, 2022 (Peer-Reviewed Journal)
- V. **Multi-Sensor Data Fusion for Path Prediction of Escaping from Engagement in Unmanned Aerial Vehicle Scenario**  
Gökal E. N., Sakarya U.  
European Journal of Science and Technology, vol.32, pp.705-710, 2021 (Peer-Reviewed Journal)
- VI. **Kalman Filter Implementation on Field-programmable Gate Array for Navigation Applications of Unmanned Aerial Vehicles**  
Deniz M. M., Sakarya U.  
European Journal of Science and Technology, vol.28, pp.152-156, 2021 (Peer-Reviewed Journal)
- VII. **Tracing Research Using Field Programmable Gate Arrays for Aviation Applications**  
Yüksel F., Sakarya U.  
European Journal of Science and Technology, vol.28, pp.130-134, 2021 (Peer-Reviewed Journal)
- VIII. **The Cloned Cartridge Case Correlation Performance of A Computerized Ballistic Identification Systems**  
Öğünç G. İ., Sakarya U., Orallı A., Sayar A., Yılmaz A., Usta S.  
AFTE Journal, vol.50, no.4, pp.221-229, 2018 (Scopus)

## Books & Book Chapters

- I. **Topaklama**  
Sakarya U.  
in: Makine Öğrenmesinde Sınıflandırma Yöntemleri ve R Uygulamaları, Selçuk Alp, Ersoy Öz, Editor, Nobel Akademik Yayıncılık, Ankara, pp.189-215, 2019

## Refereed Congress / Symposium Publications in Proceedings

- I. **Aviyonik Sistemler için FPGA Tabanlı Güvenlik Kritik Video İletimi**  
Üstüner Y., Sakarya U., Levent V. E.  
V. International İstanbul Current Scientific Research Congress, İstanbul, Turkey, 1 - 03 April 2024, pp.647-652
- II. **Aircraft Touchdown Detection Using Empirical Mode Decomposition Ampirik Kip Ayrışımı Kullanılarak Uçak Yere Temas Tespiti**  
Özkaya H., SAKARYA U.  
32nd IEEE Conference on Signal Processing and Communications Applications, SIU 2024, Mersin, Turkey, 15 - 18 May 2024
- III. **Low Earth Orbit-Based Small-Size Constellation Satellite System Design For Communication Between**

## **Türkiye and Antarctica**

Boduroglu M. I., SAKARYA U.

10th International Conference on Recent Advances in Air and Space Technologies, RAST 2023, İstanbul, Turkey, 7 - 09 June 2023

- IV. **Hyperspectral Image Classification Using Iterative Auto-Weighted Dimension Reduction**  
SAKARYA U.  
2022 IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, M2GARSS 2022, Virtual, Online, Turkey, 7 - 09 March 2022, pp.94-97
- V. **Wavelet-based Spatial-temporal Feature Extraction for Gesture Recognition**  
Zeybek T., SAKARYA U.  
3rd International Congress on Human-Computer Interaction, Optimization and Robotic Applications, HORA 2021, Ankara, Turkey, 11 - 13 June 2021
- VI. **Universal Verification Methodology Application of ARINC-429 for Airborne Electronic Hardware Certification**  
Ayaz I., SAKARYA U., Hökelek I.  
13th International Conference on Electrical and Electronics Engineering, ELECO 2021, Virtual, Bursa, Turkey, 25 - 27 November 2021, pp.162-166
- VII. **Radiometric cross-calibration of Göktürk-2 with Landsat 8**  
DEMİRHAN İ. H., DEVECİ H. S., SAKARYA U.  
2017 25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, Turkey, 15 - 18 May 2017
- VIII. **SAR image time series analysis in vegetation classification using global and local information based linear discriminant analysis**  
SAKARYA U., DEMIRPOLAT C.  
2017 25th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, Turkey, 15 - 18 May 2017
- IX. **TÜBİTAK UZAY'daki Uzaktan Algılama ile Akıllı Tarım Çalışmaları**  
ŞİMŞEK F., DEMIRPOLAT C., BERKE E., KALKAN K., TEKE M., KÜPÇÜ R., ÖZTOPRAK F., EFENDİOĞLU M., DEVECİ H. S., SAKARYA U.  
Dünya CBS Günü 2016, İstanbul, Turkey, 24 November 2016
- X. **Coğrafi Bilgi Sistemleri Bakış Açısı ile TÜBİTAK UZAY Uzaktan Algılama Grubu Araştırmaları**  
SAKARYA U., KÜPÇÜ R., TEKE M., DEVECİ H. S., ÖZTOPRAK A. F., BERKE E., DEMİRHAN İ. H., EFENDİOĞLU M., DEMIRPOLAT C., GÜRCAN İ., et al.  
Dünya CBS Günü 2016, İstanbul, Turkey, 24 - 25 November 2016
- XI. **Hiperspektral uydu kamerasinin yerden mutlak radyometrik kalibrasyonu için ön araştırma sonuçları**  
DEMİRHAN İ. H., SAKARYA U.  
VI. Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu (UZAL-CBS 2016), Adana, Turkey, 5 - 07 October 2016
- XII. **Absolute radiometric calibration of the Göktürk-2 satellite sensor using Tuz Gölü (landnet site) from NDVI perspective**  
SAKARYA U., DEMİRHAN İ. H., DEVECİ H. S., TEKE M., DEMİRKESEN C., KÜPÇÜ R., ÖZTOPRAK A. F., EFENDİOĞLU M., ŞİMŞEK F. F., BERKE E., et al.  
XXIII ISPRS Congress, Prague, Czech Republic, 12 - 19 July 2016
- XIII. **The Benefits and Challenges Having an Open and Free Basis Satellite Data Sharing Platform in Turkey: GEZGİN**  
DEVECİ H. S., KORU A., SAKARYA U., TEVRİZOĞLU İ., TEKE M., KÜPÇÜ R., AVENOĞLU B., DEMİRKESEN C., GÜRBÜZ S. Z., ÖZTOPRAK A. F., et al.  
XXIII ISPRS Congress, Prague, Czech Republic, 12 - 19 July 2016
- XIV. **Since 2012 to 2015: Remote Sensing Research at TÜBİTAK UZAY**  
SAKARYA U., TEKE M., DEMİRKESEN C., KÜPÇÜ R., DEVECİ H. S., ÖZTOPRAK A. F., BERKE E., DEMİRHAN İ. H.,

EFENDİOĞLU M., KOZAL A. Ö., et al.

The 5th International Conference on Earth Observation for Global Changes (EOGC 2015) and the 7th International Conference on Geo-information Technologies for Natural Disaster Management (GiT4NDM 2015), Al Ain, United Arab Emirates, 8 - 10 December 2015

- XV. **Thermal infrared hyperspectral dimension reduction experiment results for global and local information based linear discriminant analysis**  
SAKARYA U.  
2015 23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, Turkey, 16 - 19 May 2015
- XVI. **Evaluation of clustering performance of hyperspectral bands**  
HALİLOĞLU O., SAKARYA U., TÖREYİN B. U.  
2015 23rd Signal Processing and Communications Applications Conference (SIU), Malatya, Turkey, Turkey, 16 - 19 May 2015
- XVII. **TÜBİTAK UZAY da Hiperpektral Görüntü İşleme Araştırmaları 2012 2014**  
SAKARYA U., TEKE M., DEMİRKESEN C., HALİLOĞLU O., KOZAL A. Ö., DEVECİ H. S., ÖZTOPRAK A. F., TÖREYİN B. U., GÜRBÜZ S. Z.  
TMMOB Harita ve Kadastro Mühendisleri Odası, 15. Türkiye Harita Bilimsel ve Teknik Kurultayı, Ankara, Turkey, 25 - 28 March 2015
- XVIII. **A Short Survey of Hyperspectral Remote Sensing and Hyperspectral Remote Sensing Research At TUBITAK UZAY**  
Sakarya U., TEKE M., DEMİRKESEN C., HALİLOĞLU O., KOZAL A. O., DEVECİ H. S., OZTOPRAK A. F., TÖREYİN B. U., GÜRBÜZ S. Z.  
7th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Turkey, 16 - 19 June 2015, pp.187-192
- XIX. **Afet Yönetiminde Algılayıcı Teknolojilerinin Kullanımı**  
DEMİRKESEN C., GÜRBÜZ S. Z., SAKARYA U., DEVECİ H. S., TANKIZ S., ÖZTOPRAK F., YILMAZ Ö., ATIL İ., ARABACI M. A., AKBABA N., et al.  
V. Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu (UZAL-CBS 2014), İstanbul, Turkey, 14 - 17 October 2014
- XX. **Afet yönetiminde görüntü işleme uygulamalarının kısa bir incelemesi ve RASAT ile örnek uygulamalar**  
SAKARYA U., GÜRBÜZ S. Z., DEMİRKESEN C., DEVECİ H. S., TANKIZ S., ÖZTOPRAK A. F., YILMAZ Ö., ATIL İ., ARABACI M. A., AKBABA N., et al.  
V. Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu (UZAL-CBS 2014), İstanbul, Turkey, 14 - 17 October 2014
- XXI. **Hyperspectral dimension reduction using global and local information based linear discriminant analysis**  
SAKARYA U.  
ISPRS Technical Commission VII Symposium, İstanbul, Turkey, 13 - 18 July 2014, vol.7, pp.61-66
- XXII. **Unsharp masking filter based shadow invariant feature extraction for hyperspectral signatures**  
SAKARYA U., DEMİRKESEN C., TEKE M.  
2014 22nd Signal Processing and Communications Applications Conference (SIU), Trabzon, Turkey, Turkey, 23 - 25 April 2014
- XXIII. **HYPERSPECTRAL IMAGES AND LIDAR BASED DEM FUSION: A MULTI-MODAL LANDUSE CLASSIFICATION STRATEGY**  
DEMİRKESEN C., TEKE M., Sakarya U.  
IEEE Joint International Geoscience and Remote Sensing Symposium (IGARSS) / 35th Canadian Symposium on Remote Sensing, Quebec City, Canada, 13 - 18 July 2014
- XXIV. **A Multi Modal Landuse Classification Architecture Based on Hyperspectral DEM Fusion**  
DEMİRKESEN C., TEKE M., SAKARYA U.  
APSCO 5th International Symposium on Satellite Remote Sensing and Geographic Information System Development in Asia-Pacific Region, Ankara, Turkey, 8 - 10 October 2013, pp.21-23

- XXV. **Hyperspectral image processing researches at TÜBİTAK UZAY**  
SAKARYA U., TEKE M., DEMİRKESEN C., HALİLOĞLU O., KOZAL A. Ö., DEVECİ H. S., TÖREYİN B. U., GÜRBÜZ S. Z.  
APSCO 5th International Symposium on Satellite Remote Sensing and Geographic Information System Development  
in Asia-Pacific Region, Ankara, Turkey, 8 - 10 October 2013, pp.8-10
- XXVI. **Sub band decomposition based supervised feature extraction for hyperspectral image classification**  
HALİLOĞLU O., SAKARYA U., TÖREYİN B. U.  
MUSCLE International Workshop on Computational Intelligence for Multimedia Understanding, Antalya, Turkey, 3 -  
04 October 2013
- XXVII. **Classification on hyperspectral images using Enhanced Fisher Discriminant Criterion**  
TEKE M., SAKARYA U.  
2013 21st Signal Processing and Communications Applications Conference (SIU), Girne, Cyprus (Kktc), 24 - 26  
April 2013
- XXVIII. **A Short Survey of Hyperspectral Remote Sensing Applications in Agriculture**  
TEKE M., DEVECİ H. S., HALİLOĞLU O., GÜRBÜZ S. Z., Sakarya U.  
6th International Conference on Recent Advances in Space Technologies (RAST), İstanbul, Turkey, 12 - 14 June  
2013, pp.171-176
- XXIX. **Uzaktan algılamada RASAT Türkiye de üretilen ilk yer gözlem uydusu**  
KAHRAMAN Ö., ÖZEN H., DEMİRCİOĞLU E., SAKARYA U., KÜPÇÜ R., AVENOĞLU B., İMRE E., BANK E.  
IV. Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu (UZAL-CBS 2012), Zonguldak, Turkey, 16 - 19  
October 2012
- XXX. **Global shape characteristics based classification for firearm brand detection**  
GÖNÜLALAN C., LELOĞLU U. M., SAKARYA U.  
2012 20th Signal Processing and Communications Applications Conference (SIU), Mugla, Turkey, Turkey, 18 - 20  
April 2012
- XXXI. **Bullet matching using profile clustering**  
ACAR E., TETİKER F., OSKAY ACAR B., SAKARYA U.  
Proceedings of The 2 nd International Symposium on Computing in Science & Engineering (ISCSE 2011), Kuşadası,  
Aydın, Turkey, 1 - 04 June 2011, pp.483-488
- XXXII. **Bullet matching using SIFT feature**  
SAYAR A., TETİKER F., ACAR E., OSKAY ACAR B., SAKARYA U.  
2011 IEEE 19th Signal Processing and Communications Applications Conference (SIU), Antalya, Turkey, Turkey, 20  
- 22 April 2011
- XXXIII. **A Case Study of an Automated Firearms Identification System BALİSTİKA 2010**  
SAKARYA U., ES Ş. A., LELOĞLU U. M., TUNALI E., BİRGÜL Ö.  
BIT's 1st Annual World Congress of Forensics (WCF-2010), Dalian, China, 21 - 23 October 2010
- XXXIV. **Effects of noises in images used for height map reconstruction of cartridge cases using photometric  
stereo**  
ÖZTÜRK O. A., BİRGÜL Ö., ESEN E., SAKARYA U.  
2009 IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, Turkey, 9 - 11  
April 2009
- XXXV. **Video content analysis using dominant sets**  
SAKARYA U., TELATAR Z.  
2009 IEEE 17th Signal Processing and Communications Applications Conference, Antalya, Turkey, Turkey, 9 - 11  
April 2009
- XXXVI. **Video scene detection using dominant sets**  
Sakarya U., Telatar Z.  
2008 IEEE International Conference on Image Processing, ICIP 2008, San Diego, CA, United States Of America, 12 -  
15 October 2008, pp.73-76
- XXXVII. **A graph based approach for video scene detection**  
SAKARYA U., TELATAR Z.  
2008 IEEE 16th Signal Processing, Communication and Applications Conference, Aydın, Turkey, Turkey, 20 - 22



April 2008

**XXXVIII. Graph partition based scene boundary detection**

Sakarya U., Telatar Z.

ISPA 2007 - 5th International Symposium on Image and Signal Processing and Analysis, İstanbul, Turkey, 27 - 29 September 2007, pp.544-549

**XXXIX. Graph based multilevel temporal segmentation of scripted content videos**

SAKARYA U., TELATAR Z.

The 6th IAPR-TC-15 International Workshop on Graph-Based Representations in Pattern Recognition (GbrPR 2007), Alicante, Spain, 11 - 13 June 2007

**XL. Performance results of the improved method of photometric stereo using local shape from shading on variable albedo samples**

SAKARYA U., ERKMEN İ.

Proceedings of the IEEE 12th Signal Processing and Communications Applications Conference, 2004., Kusadasi, Turkiye, Turkey, 28 - 30 April 2004

**XLI. GAYE: A face recognition system**

KEPENEKÇİ B., TEK F. B., ÇİLİNGİR O., Sakarya U., AKAR G.

Conference on Image Processing - Algorithms and Systems III, San-Jose, Costa Rica, 19 - 21 January 2004, vol.5298, pp.99-106

**XLII. A comparative performance test of a new ballistic analysis system BALISTIKA**

LELOĞLU U. M., SAKARYA U., TEK F. B., ÇİLİNGİR O., TUNALI E.

3rd European-Academy-of-Forensic-Science Meeting, İstanbul, Turkey, 22 - 27 September 2003

**XLIII. A new automated firearms identification system using 3D information Balistika**

LELOĞLU U. M., SAKARYA U., TEK F. B., ÇİLİNGİR O., YERLİKAYA M.

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**XLIV. Güvenlik amaçlı yüz tanıma sistemi GAYE**

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10. Sinyal İşleme ve İletişim Uygulamaları Kurultayı (SİU 2002), Denizli, Turkey, 12 - 14 June 2002, pp.321-325

## Other Publications

**I. ENDÜSTRİ 4.0 UYGULAMALARI İÇİN GÖRSEL TEMELLİ ROBOT DİLİ**

Sakarya U.

Other, pp.1-12, 2022

**II. Method for automatic region segmentation on cartridge case base and selection of the best mark region for cartridge case comparison**

Leloğlu U. M., Sakarya U., Tunali E.

Other, pp.1-14, 2014

**III. SHAPE INDEX AND POLYNOMIAL COEFFICIENT BASED PATTERN ANALYSIS AND COMPARISON METHOD FOR CARTRIDGE CASES AND BULLETS IN FORENSIC SCIENCE**

Sakarya U., Leloğlu U. M., Topçu O., Arkan H. S., Kadioğlu M. Z., Çanga S., Es Ş. A.

Other, pp.1-24, 2013

**IV. A METHOD FOR ANALYSIS AND COMPARISON OF CRIMINOLOGICALLY USEFUL MARKS THAT ARE CREATED BY METAL-METAL INTERACTION**

Sakarya U., Leloğlu U. M., Tunali E.

Other, pp.1-16, 2009

**V. REDUCTION OF THE TIME PERIOD NECESSARY FOR COMPARISON IN CRIMINAL DATABASES BY USING A UNIVERSAL SET FORMATION METHOD WHERE THE UNIVERSAL SET IS SUBJECT TO TIME-VARYING SUBSET FORMATION**

Sakarya U., Leloğlu U. M., Tunali E., Es Ş. A.

Other, pp.1-23, 2009

## VI. Use of graphics processing unit (GPU) in the investigation of marks used in criminology

Sakarya U., Es Ş. A., Tunali E.

Other, pp.1-11, 2008

### Supported Projects

Sakarya U., Technopark, YTÜTTO741, 2022 - 2023

Sakarya U., Technopark, YTÜTTO648, 2022 - 2023

Sakarya U., Technopark, YTÜTTO603, 2021 - 2022

SAKARYA U., TUBITAK Project, TÜRKSAT 6-A Yerli Haberleşme Uydusu Geliştirilmesi ve Üretimi, 2015 - 2019

SAKARYA U., EU Framework Program Project, Coordinating and integrating state-of-the-art Earth Observation Activities in the regions of North Africa, Middle East, and Balkans and Developing Links with GEO related initiatives towards GEOSS, 2016 - 2018

SAKARYA U., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, Uydu Görüntü İşleme ve Geoportal Oluşturma Projesi, 2013 - 2018

SAKARYA U., Project Supported by Other Official Institutions, GAP Bölgesinde Hassas Tarım ve Sürdürülebilir Uygulamaların Yaygınlaştırılması Projesi, 2014 - 2017

SAKARYA U., CB Strateji ve Bütçe Başkanlığı (Kalkınma Bakanlığı) Projesi, İMECE Uydu Altyapı Geliştirilmesi Projesi, 2013 - 2015

SAKARYA U., EU Framework Program Project, Earth Observation for Economic Empowerment, 2013 - 2015

SAKARYA U., TUBITAK Project, RTÜK SKAAS TANIMA SİSTEMİNİN GELİŞTİRİLMESİ, 2008 - 2009

SAKARYA U., TUBITAK Project, YÜKSEK KAPASİTE VE HIZLI BİLGİSAYARLI KOVAN VE MERMİ ÇEKİRDEĞİ BALİSTİK GÖRÜNTÜSÜ ANALİZ VE TANIMA SİSTEMİNİN GELİŞTİRİLMESİ - BALİSTİKA 2010, 2008 - 2009

### Patent

Sakarya U., Endüstri 4.0 Uygulamaları İçin Görsel Temelli Robot Dili, Patent, CHAPTER G Physics, The Invention Registration Number: 2022 014689 , Standard Registration, 2023

Sakarya U., Metal-metal etkileşimi sonucu oluşan ve suç bilim alanında kullanılabilecek iz analizi ve karşılaştırması yöntemi, Utility Model, CHAPTER G Physics, The Invention Registration Number: 2008-G-83168 , Standard Registration, 2021

SAKARYA U., Method for automatic region segmentation on cartridge case base and selection of the best mark region for cartridge case comparison, Patent, CHAPTER G Physics, Standard Registration, 2014

### Memberships / Tasks in Scientific Organizations

Bilimsel Araştırma ve Koordinasyon Komisyonu (BARKOK), Chairman, 2015 - 2017

### Scientific Refereeing

ASYU 2024 Akıllı Sistemlerde Yenilikler ve Uygulamaları Konferansı, Conference Paper (Full Text), July 2024

ASYU 2024 Akıllı Sistemlerde Yenilikler Ve Uygulamaları Konferansı, Conference Paper (Full Text), July 2024

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SIGMA JOURNAL OF ENGINEERING AND NATURAL SCIENCES, Journal Indexed in ESCI, July 2024

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ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, Journal Indexed in SCI-E, March 2024  
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2024 IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, Conference Paper (Full Text),  
January 2024  
2024 IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, Conference Paper (Full Text),  
January 2024  
2024 IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, Conference Paper (Full Text),  
January 2024  
2024 IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, Conference Paper (Full Text),  
January 2024  
2024 IEEE Mediterranean and Middle-East Geoscience and Remote Sensing Symposium, Conference Paper (Full Text),  
January 2024  
ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE, Journal Indexed in SCI-E, December 2023  
TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Journal Indexed in SCI-E, December  
2023  
PATTERN RECOGNITION, Journal Indexed in SCI-E, December 2023  
AEROSPACE SCIENCE AND TECHNOLOGY, Journal Indexed in SCI-E, November 2023  
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10th International Conference on Recent Advances in Air and Space Technologies (RAST2023), Conference Paper (Full  
Text), April 2023  
10th International Conference on Recent Advances in Air and Space Technologies (RAST2023), Conference Paper (Full  
Text), April 2023  
10th International Conference on Recent Advances in Air and Space Technologies (RAST2023), Conference Paper (Full  
Text), April 2023  
PATTERN RECOGNITION, SCI Journal, May 2022  
Journal of Aeronautics and Space Technologies, Other Indexed Journal, April 2022  
PATTERN RECOGNITION, SCI Journal, December 2021  
PATTERN RECOGNITION, SCI Journal, December 2021  
Sigma Journal of Engineering and Natural Sciences, Journal Indexed in ESCI, November 2021  
SIGNAL IMAGE AND VIDEO PROCESSING, Journal Indexed in SCI-E, July 2021  
PATTERN RECOGNITION, SCI Journal, June 2021  
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PATTERN RECOGNITION, SCI Journal, May 2020  
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TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Journal Indexed in SCI-E, February 2020  
PATTERN RECOGNITION, SCI Journal, November 2019  
SIGNAL IMAGE AND VIDEO PROCESSING, Journal Indexed in SCI-E, October 2019  
PATTERN RECOGNITION, SCI Journal, September 2019  
Turkish Journal Of Electrical Engineering And Computer Sciences, Journal Indexed in SCI-E, August 2019  
SIGNAL IMAGE AND VIDEO PROCESSING, Journal Indexed in SCI-E, May 2019  
SIGNAL IMAGE AND VIDEO PROCESSING, Journal Indexed in SCI-E, March 2019

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TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Journal Indexed in SCI-E, September 2017

IEEE GEOSCIENCE AND REMOTE SENSING LETTERS, Journal Indexed in SCI-E, June 2016

TURKISH JOURNAL OF ELECTRICAL ENGINEERING AND COMPUTER SCIENCES, Journal Indexed in SCI-E, June 2016

IEEE TRANSACTIONS ON CYBERNETICS, SCI Journal, June 2016

FRONTIERS OF INFORMATION TECHNOLOGY & ELECTRONIC ENGINEERING, Journal Indexed in SCI-E, December 2015

PATTERN RECOGNITION, SCI Journal, November 2015

SIGNAL IMAGE AND VIDEO PROCESSING, Journal Indexed in SCI-E, September 2014

SIGNAL IMAGE AND VIDEO PROCESSING, Journal Indexed in SCI-E, January 2014

SIGNAL PROCESSING-IMAGE COMMUNICATION, SCI Journal, October 2013

## **Scientific Research / Working Group Memberships**

Group on Earth Observations (GEO) European High Level Working Group (HLWG), Avrupa Birliđi, Belçika,

<http://ec.europa.eu/transparency/regexpert/index.cfm?do=groupDetail.groupDetail&groupID=1781>, 2018 - 2018

Drafting Committee Member of Asia-Pacific Plan of Action for Space Applications for Sustainable Development (2018-2030), United Nations (UN) Economic and Social Commission for Asia and the Pacific (ESCAP), Tayland,

<http://www.unescap.org/>, 2018 - 2018

## **Metrics**

Publication: 74

Citation (WoS): 208

Citation (Scopus): 293

H-Index (WoS): 8

H-Index (Scopus): 8

## **Congress and Symposium Activities**

VI. Uzaktan Algılama ve Coğrafi Bilgi Sistemleri Sempozyumu (UZAL-CBS 2016), YERLİ UZAKTAN ALGILAMA

UYDULARIMIZ PANELİ, Panelists, Adana, Turkey, 2016

## **Non Academic Experience**

TÜBİTAK UZAY

MİLLİ SAVUNMA BAKANLIđI

TÜBİTAK UZAY

TÜBİTAK UZAY

TÜBİTAK UZAY